

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-39 (Cancelled).

Claim 40 (Currently Amended): An isolated N-acetylglucosamine-1-phosphotransferase comprising an  $\alpha$ -subunit, a  $\beta$ -subunit and a  $\gamma$ -subunit, wherein the  $\alpha$ -subunit comprises an amino acid sequence that is at least 70% identical to of SEQ ID NO:1 or an amino acid sequence having biological activity of an  $\alpha$ -subunit of N-acetylglucosamine-1-phosphotransferase and which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 165 to 2948 of SEQ ID NO:4, the  $\beta$ -subunit comprises an amino acid sequence that is at least 70% identical to of SEQ ID NO:2 or an amino acid sequence having biological activity of a  $\beta$ -subunit of N-acetylglucosamine-1-phosphotransferase and which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 2949 to 3932 of SEQ ID NO:4, and

the  $\gamma$ -subunit comprises an amino acid sequence that is at least 70% identical to of SEQ ID NO:3 or an amino acid sequence having biological activity of a  $\gamma$ -subunit of N-acetylglucosamine-1-phosphotransferase and which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of SEQ ID NO:5, wherein the stringent conditions comprise washing in 0.2 X SSC and 0.1 % SDS at 65°C.

Claim 41 (Previously Presented): The isolated N-acetylglucosamine-1-phosphotransferase of Claim 40, wherein the  $\alpha$ -subunit comprises the amino acid sequence of SEQ ID NO:1.

Claim 42 (Previously Presented): The isolated N-acetylglucosamine-1-phosphotransferase of Claim 40, wherein the  $\beta$ -subunit comprises the amino acid sequence of SEQ ID NO:2.

Claim 43 (Previously Presented): The isolated N-acetylglucosamine-1-phosphotransferase of Claim 40, wherein the  $\gamma$  subunit comprises the amino acid sequence of SEQ ID NO:3.

Claim 44 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 40 and a carrier.

Claim 45 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 41 and a carrier.

Claim 46 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 42 and a carrier.

Claim 47 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 43 and a carrier.

Claim 48 (Currently Amended): An isolated polypeptide, which comprises an amino acid sequence which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 165 to 2948 of SEQ ID NO:4 and has the

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activity of a biologically active  $\alpha$ -subunit of N-acetylglucosamine-1-phosphotransferase,  
wherein the stringent conditions comprise washing in 0.2 X SSC and 0.1 % SDS at 65°C.

Claim 49 (Previously Presented): The isolated polypeptide of Claim 48, which comprises SEQ ID NO:1.

Claim 50 (Previously Presented): A composition comprising the isolated polypeptide of Claim 48 and a carrier.

Claim 51 (Previously Presented): A composition comprising the isolated polypeptide of Claim 49 and a carrier.

Claim 52 (Currently Amended): An isolated polypeptide, which comprises an amino acid sequence ~~that is at least 70% identical to SEQ ID NO:2 which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 2949 to 3932 of SEQ ID NO:4~~ and has the activity of a biologically active  $\beta$ -subunit of N-acetylglucosamine-1-phosphotransferase, wherein the stringent conditions comprise washing in 0.2 X SSC and 0.1 % SDS at 65°C.

Claim 53 (Previously Presented): The isolated polypeptide of Claim 52, which comprises SEQ ID NO:2.

Claim 54 (Currently Amended): A composition comprising the isolated polypeptide of ~~Claim 53~~ Claim 52 and a carrier.

Claim 55 (Previously Presented): A composition comprising the isolated polypeptide of Claim 53 and a carrier.

Claim 56 (Currently Amended): An isolated polypeptide, which comprises an amino acid sequence ~~that is at least 70% identical to SEQ ID NO:3~~ which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of SEQ ID NO:5, and has the activity of a biologically active  $\gamma$ -subunit of N-acetylglucosamine-1-phosphotransferase, wherein the stringent conditions comprise washing in 0.2 X SSC and 0.1 % SDS at 65°C.

Claim 57 (Previously Presented): The isolated polypeptide of Claim 56, which comprises SEQ ID NO:3.

Claim 58 (Previously Presented): A composition comprising the isolated polypeptide of Claim 56 and a carrier.

Claim 59 (Previously Presented): A composition comprising the isolated polypeptide of Claim 57 and a carrier.

Claim 60 (Previously Presented): A composition comprising an isolated polypeptide which comprises an amino acid sequence ~~that is at least 70% identical to SEQ ID NO:1~~ which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 165 to 2948 of SEQ ID NO:4 and has the activity of a biologically active  $\alpha$ -subunit of N-acetylglucosamine-1-phosphotransferase; and an isolated polypeptide which comprises an amino acid sequence ~~that is at least 70% identical to SEQ ID~~

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NO:2 which is encoded by an isolated nucleic acid which hybridizes under stringent conditions to the complement of nucleotides 2949 to 3932 of SEQ ID NO:4 and has the activity of a biologically active  $\beta$ -subunit of N-acetylglucosamine-1-phosphotransferase,  
wherein the stringent conditions comprise washing in 0.2 X SSC and 0.1 % SDS at 65°C.

Claim 61 (Previously Presented): The composition of Claim 60, which comprises SEQ ID NO:1 and SEQ ID NO:2.

Claim 62 (Previously Presented): The composition of Claim 60, further comprising a carrier.

Claim 63 (Previously Presented): An isolated N-acetylglucosamine-1-phosphotransferase which has a specific activity of at least  $10^6$  pmol/h/mg.

Claim 64 (Previously Presented): The isolated N-acetylglucosamine-1-phosphotransferase of Claim 63 which has a specific activity of at least  $5 \times 10^6$  pmol/h/mg.

Claim 65 (Previously Presented): The isolated N-acetylglucosamine-1-phosphotransferase of Claim 63 which has a specific activity of at least  $12 \times 10^6$  pmol/h/mg.

Claim 66 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 63 and a carrier.

Claim 67 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 64 and a carrier.

Claim 68 (Previously Presented): A composition comprising the isolated N-acetylglucosamine-1-phosphotransferase of Claim 65 and a carrier.